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# THE RAILROADS UNDER GOVERNMENT OPERATION. I. THE PERIOD TO THE CLOSE OF 1918<sup>1</sup>

## SUMMARY

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THE years 1917-20 inclusive, will stand out as a critical period in the history of American railroads. These short three years were marked by as many fundamental changes in railroad administration. First came the voluntary unification of all railroads and the attempt on the part of individual roads to act together in the war emergency as one system, under the direction of

<sup>1</sup> The writer of this article was officially connected with the United States Railroad Administration from April, 1917, until September 15, 1919, first as manager of the Operating Statistics Section, and later as assistant director of Operation.

a Railroads' War Board invested with power to suspend and disregard individual and competitive interests. This voluntary unification lasted from April 11, 1917, to December 28, 1917, or almost nine months. The second change was the compulsory unification of all railroads under federal control, lasting twenty-six months (until February 29, 1920). The third came with the passage of the Transportation Act of 1920, which restored the railroads to private management and fundamentally modified the policy of public regulation.

From March 1, 1920, railroad administration has entered upon a new era. We are now observing with keen interest the workings of the new policy of regulation, and are wondering whether the results in the immediate future will justify the action of our law makers in giving constructive effect to an overwhelming public opinion in favor of the restoration of private management and a more liberal policy of regulating earnings, or whether it will mark the final downfall of private management and the permanent adoption of some form of governmental operation or ownership. The traditional American policy of relying upon competition and private initiative to serve public interests in railroad management is on trial for its life. Whether it will be condemned, or vindicated and acquitted, depends upon the degree of success which attaches to the results under the provisions of the Transportation Act.

It is the purpose of this and a second article (1) to review the events which preceded the President's proclamation taking possession of the railroads; (2) to review the policies and results of the first year of federal control, during which American participation in the world war was at its height; (3) to discuss the policies and results of federal control during its second year or the first part of the reconstruction period; and (4) to

comment upon the present situation and the outlook for the future. The present article will deal with events up to December 31, 1918.

### EVENTS PRECEDING FEDERAL CONTROL

Critics of private railroad management state that the railroads "broke down" in 1917, just at the time when transportation efficiency was most vitally necessary. If it is true that the railroads failed in the emergency, we are as much interested in the causes of the failure as in the failure itself. To get at the causes it is necessary to trace the events of the decade preceding the period of the war.

Until a few years prior to our entrance into the war, it had been the traditional policy of the typical American railroad to keep its equipment and facilities well ahead of the demands of growing traffic. The cost of additional or improved equipment, and of additional or enlarged terminals, trackage, and other physical facilities, was met either from current income or from the sale of new securities. As a result of this policy, the typical railroad was always equipped to handle its growing business economically. There was an ample factor of safety, so that the ever-increasing volume of tonnage and passengers could be handled expeditiously and without congestion.

The ability to continue this policy depended, of course, upon net earnings sufficient to insure ample credit. So long as net earnings justified appropriations for improvements, or were sufficient to assure the investor in new securities, there was no difficulty in keeping pace with expanding traffic. In most cases the earnings from the additional traffic sufficed to pay a reasonable return upon the additional investment. The law of

increasing returns had its full application as the improvements or enlargements in equipment and facilities made it possible, with the larger traffic, to operate at lower unit costs. These lower unit costs enabled the railroads to absorb the gradually increasing wage rates or other additional operating expenses and taxes, and because investors had confidence in railroad securities they were easily marketable.

This situation continued as long as net earnings were sufficient. But the gradual tendency of higher operating costs, coupled with a national and state policy of regulation which tended to reduce rather than to increase rates, soon had the effect of reducing net income. The turning point came about 1906, or coincident with the passage of the Hepburn Act amending the Interstate Commerce Act. This amendment, with its power of suspension, gave the Commission complete control over rates. The period, too, was marked by unusual activity on the part of state commissions and state legislatures. Many new laws were passed, nearly all of which either reduced revenues or increased expenses. The difficulty was aggravated by a conflict of regulating laws as between the states themselves, and as between the states and the Interstate Commission. Coupled with these adverse influences on net earnings came greater activity on the part of the railroad labor organizations in their demands for higher wages. While the steadily growing burdens of increased operating expenses and taxes impinged upon and forced net income downward, the railroads were unable to convince the government regulating authorities that rates should be increased in a degree which would maintain net income. Consequently it became difficult to appropriate money for betterments, and during the decade which preceded our entrance into the world war the program of

extensions, enlargements, and improvements was far below the normal rate of earlier years. Not only were the railroads as a whole unable to raise the funds necessary to equip themselves for prospective increases in traffic, but many were in such financial straits that they found themselves unable to maintain their solvency. The year 1915 marked the peak of railroad receiverships. In that year approximately 42,000 miles, or about one-sixth of the entire railroad mileage of the country was in the hands of the courts.<sup>1</sup> New construction had practically ceased. The mileage of new railroad built in that year was less than in any year since the period of the Civil War. Orders for new locomotives and cars dropped to an unprecedented low level, and drastic retrenchment and curtailment in service were everywhere in evidence.

The spokesmen of the railroads made earnest and continued appeals in an effort to arouse the interest of the public and, through the public, the interest of the governmental regulating authorities in the seriousness of the railroad situation. Among these spokesmen none presented the railroad case with more vigor or with more vision than the late James J. Hill. For several years before the world war he foresaw the ultimate effect of the slowing down of railroad development, and he sounded a note of warning, predicting that national embarrassment would come. He plead for a policy of regulation which would make it possible to invest one billion dollars annually in railroad facilities, particularly in terminals. But the warning and the plea were not needed. The railroads were able to spend but a fraction of the sum which he regarded as necessary. Consequently the natural increase in traffic (ton miles double about every twelve years) soon overtook and exceeded

<sup>1</sup> *Railway Age Gazette*, October 1, 1915.

the capacity of the railroads to give satisfactory service. The point of traffic saturation was reached.

This was the situation in 1915, when the flood of extra traffic incident to the great war broke upon the railroads. They were not prepared for the overload, but met the emergency with resourcefulness. The year 1916 brought a further increase in traffic as the orders for war materials to be shipped abroad grew in volume. Then came our declaration of war against the Central Powers in April, 1917, and with it the mobilization of the army and navy, the construction of cantonments, the beginning of the ship building and aircraft programs, and the large scale production of ammunition and supplies of all kinds for our fighting forces.

Having in mind the fundamental fact that during the ten years immediately preceding the date of our participation in the world war the railroads of the country had been unable to earn net income sufficient for them to maintain their credit and to attract new capital for needed enlargements and improvements in facilities, and that the abnormal traffic incident to war conditions was so great as to exceed the capacity of their lines and terminals, it was inevitable that congestions and delays should occur. Such a result, particularly on the lines serving the eastern seaboard, where most of the additional traffic centered, could not be avoided.

### THE RAILROADS' WAR BOARD

The gravity of the situation was fully realized by the railroad executives, and when we entered the war they acted quickly in an effort to meet the emergency. It will be recalled that in 1914, almost immediately after England declared war against Germany, the British government took over the railroads and operated them

through a board consisting of the general managers of the principal railroads. When the United States became associated with the Allies, a move similar to that taken by the British government was anticipated by our railroad executives, but they decided to take the initiative themselves. Within five days after our declaration of war against Germany the Railroads' War Board was organized under a resolution signed by the chief executive of practically every railroad in the United States. The resolution bound the railroads individually to coördinate their operations during the war within a continental railroad system, "merging during such period all their merely individual and competitive activities in the effort to produce a maximum of transportation efficiency." While the controlling motive was one of patriotic endeavor to make the railroads the greatest possible aid to the government in prosecuting the war, there was undoubtedly a desire on the part of many railroad executives to demonstrate to the public that American railroad men under private ownership and control of railroads could do their part without formal government action like that taken in England. Such a demonstration, if successful, would curb the activities of the growing number of people who then looked with favor upon government ownership as the ultimate solution of the railroad problem, and who advocated the immediate taking of the railroads as a war measure.

By the terms of the agreement, which was brought about by a special committee of the American Railway Association (the details of the plan had been worked out before we declared war), the operations of all railroads as a continental system were to be directed by the executive committee of the Railroads' War Board, to whom the chief executive of each railroad company had

formally delegated authority to merge competitive activities and to make common use of facilities and equipment. The activities of the Railroads' War Board were tied into the activities of the Council of National Defense by a member of the Council who became *ex officio* a member of the War Board, and were similarly coördinated with the work of the Interstate Commerce Commission through one of the Commissioners. The two *ex officio* members participated in the deliberations of the Railroads' War Board and in the shaping of its policies. There was also active and continuous coöperation between the Railroads' War Board and the army and navy, and the Food and Fuel Administrations, and points of contact were established with practically all other governmental agencies.

Each railroad individually was operated by its chief executive under instructions from the executive committee of the Board. Outside of freight car utilization and troop movements, an excess of centralized control of detail was avoided. The executive committee exercised its control through regional committees, the chairmen of which, with the executive committee and the *ex officio* members, made up the complete Board. These regional chairmen exercised jurisdiction in territories which corresponded with the five army departments, namely, the Northeastern, the Eastern, the Southeastern, the Central, and the Western districts with their respective chairmen for the Railroads' War Board and generals in charge of the army departments. At each army headquarters and at each cantonment camp or mobilization point a representative of the Railroad Board was stationed to insure prompt and effective coöperation between the army authorities and the railroads, and during the months from July to December, 1917, the railroad transportation needs of the army were met in a man-

ner which brought nothing but praise from the army authorities.<sup>1</sup>

While the first energies of the Railroad Board were devoted to satisfying the demands of the army and navy, efforts were made to take care of the needs of other branches of the government, and to impose the minimum of hardship upon the civilian population. The executive committee, the regional chairmen, and the several sub-committees of the Board did their best to bring about complete unification of facilities and equipment and to eliminate the "merely individual and competitive activities." Much of merit was accomplished by the Commission on Car Service in its efforts "to make one freight car do the work of two." Considerable progress was made in bringing about the joint use of terminals and running tracks, in reducing the volume of traffic moving via circuitous routes, and in curtailing superfluous passenger trains established for competitive reasons.<sup>2</sup> The statistical records of April to December, 1917 show commendable improvements in the efficient utilization of locomotives and freight cars, and the inconvenience to the civilian travelers was much less than that which was imposed in England.

<sup>1</sup> In his annual report for 1917, Secretary of War Baker made this reference to railroad coöperation.

"In this general connection it seems appropriate to refer to the effective cooperation between the department and the transportation agencies of the country. For a number of years the Quartermaster General's Department has maintained close relations with the executives of the great railway systems of the country. In February, 1917 a special committee of the American Railway Association was appointed to deal with questions of national defense, and the cooperation between this committee and the department has been most cordial and effective, and but for some such arrangement the great transportation problem would have been insoluble. I am happy, therefore, to join the Quartermaster General in pointing out the extraordinary service rendered by the transportation agencies of the country, and I concur also in his statement that of those who are now serving the nation in this time of stress, there are none who are doing so more wholeheartedly, unselfishly and efficiently than the railroad officials who are engaged in this patriotic work."

<sup>2</sup> The reduction in passenger service was mainly on the roads east of Chicago. Relatively little was done on the transcontinental lines. The failure to act may be traced to the influence of competition.

Yet the results as a whole were not satisfactory. Freight congestions began to occur on the lines serving the Atlantic seaboard. Yards, sidings, and even running tracks were clogged with cars. The freight service as a whole on the lines between Chicago, Pittsburg, and the Atlantic ports was badly demoralized during the last three months of 1917.

One reason for these congestions is found in the failure of the railroads to keep up their programs of enlargement and improvement, and to maintain their usual scale of additions to the equipment of locomotives and freight cars. The small factor of safety that remained in 1917 was exceeded, and the flow of traffic at strategic points was impeded. It is an axiom of transportation that the capacity of a road as a whole is limited by the capacity at strategic points. The "neck of the bottle" may be the receiving or final terminals, it may be the intermediate yards, it may be the engine terminals, it may be the supply or the condition of locomotives, it may be the number of experienced train crews, or it may be the capacity of the management to cope with new problems. In this case the principal difficulties were found in the terminals at Pittsburg, Baltimore, Philadelphia, and New York. The great bulk of the additional war traffic from other sections of the country was required to move through those terminals and the railroads had also to supply the raw materials to and take the finished products from the many manufacturing plants in Pennsylvania, Delaware, New Jersey, New York, and the New England states.

The failure to control the flow of export traffic was the second cause of the congestion. Freight for export was accepted without regard to the capacity of the available ships. Part of the war materials for the Allies was ordered from American manufacturers under con-

tracts which provided that a large percentage of the invoice would be paid as soon as the materials were loaded on cars.<sup>1</sup> The profits on these contracts were large. The traffic departments of the railroads were eager to get the tonnage. There was, therefore, every inducement to load the materials into the cars at the earliest possible moment. The result was that the export tonnage on the rails very much exceeded the capacity of the ships, and the cars containing the excess were held for months at a time. If something like the permit system which was adopted later by the United States Railroad Administration had been put into effect, or if the Railroads' War Board had been able to curb the spirit of competition which apparently blinded the traffic and executive departments of the railroads to the obvious consequences, the flow of this traffic might have been controlled at the source and the crisis might have been avoided. As the trouble developed at the seaports the cars backed up and filled the intermediate yards. Then it affected the large producing centers at and east of Pittsburg. Then it backed up to Chicago and the Mississippi River points. Freight cars held weeks and months under load were not released in time to be returned for new loads, and a car shortage resulted. Efforts to pick out certain cars from the accumulation added to the delay and confusion.

The original Act to Regulate Commerce (1886) provided that the railroads, in time of war, should give preference and precedence over all other traffic to the movement of troops and materials of war, and should adopt every means within their control to facilitate and expedite military traffic. Under this authority each branch of the government insisted upon priority in the

<sup>1</sup> This applied particularly on materials for Russia. The breakdown in that country left vast stores of materials on cars at both the Atlantic and the Pacific seaports.

movement of its freight, but there was no effective agency for coördinating these demands. As the government freight made up such a large part of the total traffic of the eastern roads, and as nearly every department pressed for special priority for its cars, the situation became one of demoralization. It was stated that on one day in the latter part of 1917 a count of the eastward-bound loaded cars on the Pennsylvania Railroad east of Pittsburg indicated that something like 80 per cent were marked for priority. Here was a third reason for the transportation crisis.

Still another important factor, already referred to in connection with the export situation, was the failure of the Railroads' War Board to put an effective curb on competitive influences. This was but natural. Railroad officials had been brought up in an atmosphere of competition, and our national policy of regulation is predicated upon unhampered competition. The anti-pooling and the anti-trust laws are examples of legislation for enforcing competition. In fact, there was some fear that the Attorney General might question the legality of the Railroads' War Board, and there was uncertainty as to how long it would continue to function. A railroad executive with a jealous regard for the interests of his stockholders had some justification for hesitating to give up something which might permanently benefit a natural rival and permanently affect the value of his property. These incidents in the main attached to traffic relations; they had little bearing upon the strictly operating features.

## FEDERAL CONTROL

By December, 1917 the railroad situation had become acute; there was much conjecture as to what would be done. The uncertainty was dissolved by the President's proclamation of December 26th. Acting under the authority granted to him by the Army Appropriation Act of August 29, 1916,<sup>1</sup> the President took possession of the railroads of the country as a war measure, from December 28, 1917, and appointed William G. McAdoo, Secretary of the Treasury, as Director General of Railroads.

The President's proclamation and his letter to Congress intimate that the impelling motive for federal control was one of finance. "Complete unity of administration in the present circumstances involves upon occasions and at many points a serious dislocation of earnings, and the committee (the Railroads' War Board) was, of course, without power or authority to rearrange charges or effect proper compensations and adjustments of earnings. Several roads which were willingly and with admirable public spirit accepting the orders of the committee have already suffered from these circumstances and should not be required to suffer further." The tenseness of the labor situation was another ground for the federalization of railroads. The high wages paid in the shipbuilding yards, in munition plants, and in other work on war supplies, and the sharp advances in the cost of living, had caused much unrest among railroad workers. While the railroad executives were deliberating, there were threats of strikes, and the

<sup>1</sup> This section of the Act was probably intended to provide for any emergency which might arise in connection with Mexico in 1916. At the time of its passage there was little thought of our entering the world war.

situation during the latter part of 1917, just preceding federal control, was exceedingly acute.

But, with all the emphasis placed upon matters of finance and their effect upon the pressing problems of enlargement, upon labor unrest, and upon the coördination of facilities, other reasons were in the background. One of the great obstacles to complete coördination of facilities under voluntary agreement among the railroads was law-made rather than railroad-made. The things which the United States Railroad Administration at once set about to do were the very things that the railroads as private corporations were forbidden to do by the anti-trust and anti-pooling laws. What the Railroads' War Board had done in voluntary unification was directly contrary to those laws, and the executives knew that they might be held personally liable. There were no informal "understandings" that under the emergency conditions the Department of Justice would overlook the situation. On the contrary, there were positive indications by official inquiries that the Attorney General was keeping himself informed of every move. The laws obliged railroads to compete; they prohibited the pooling of facilities and earnings. Under the war conditions the maximum of transportation production depended to a large extent upon effective coördination, which required the pooling of resources. This phase of the situation undoubtedly had weight in the government's decision to take over the railroads.<sup>1</sup>

The President's proclamation of December 26, 1917 directed Mr. McAdoo, as Director General of Railroads, to take possession of and control, operate, and utilize "each and every system of transportation and appurtenances thereof," and to "perform the duties

<sup>1</sup> The Federal Control Act provided for the war-time suspension of the anti-trust and the anti-pooling laws as applied to railroads

imposed upon him through the boards of directors, receivers, officers, and employees of said systems of transportation. Until and except so far as said director shall from time to time by general or special orders otherwise provide, the boards of directors, receivers, officers, and employees of the various transportation systems shall continue the operation thereof in the usual and ordinary course of the business of common carriers, in the names of their respective companies." The Director General's first general order accordingly directed that "all officers, agents, and employees . . . may continue in the performance of their present regular duties, reporting to the same officers as heretofore and on the same terms of employment."

Under this order the president of a railroad company acted as agent of the Director General and at the same time continued as the chief executive of the corporation — a form of organization which was continued until after the passage of the Federal Control Act, approved March 21, 1918. That Act provided the terms of compensation to the corporations and otherwise established the relations between the Director General as the lessee of the railroads and the individual companies as lessors.

Immediately after the passage of the Control Act an attempt was made to draw a fairly sharp line between railroad activities which were purely corporate and those which were federal. For example, on March 30, 1918, Circular No. 17 outlined a policy under which the salaries and expenses of officers and employees engaged primarily in work for the corporation would be paid from corporate funds, if the corporation desired to continue their services, and under which the government would pay the salaries and expenses of such officers and employees only as were necessary for the federal operation of railroads. This circular was aimed at such

corporate officers as chairmen of the Board, general counsel, and executive financial officers such as the New York corporate organizations of western and southern railroads.

This action was followed on May 21 by a fundamental change in organization. Instead of continuing the chief executive of a railroad company as the agent of the government, the Director General ordered that there should be a distinct cleavage between federal and corporate activities. To that end he required that a federal manager, to act for the Director General, should be appointed for each railroad or for each group of railroads in the cases where some of the small roads were operated as parts of larger systems.<sup>1</sup> Federal managers were obliged to sever all connection with the railroad companies. They were to represent the government exclusively. In most cases the president or the operating vice president was chosen as federal manager. Thereafter there were two sets of officers and employees. The first, the federal organization, included as its principal officers a federal manager (on a few of the larger systems there was also a general manager), a federal auditor, a federal treasurer, a federal counsel, and other officers necessary under governmental operation. The second set of officers looked out for corporate interests and consisted of a president, secretary, corporate auditor, corporate treasurer, and others necessary to serve the interests of the company while the roads were under federal control. This action, designed to remove the possibility of conflict of interest and of loss to the government by the former plan of dual responsibility, was precipitated by a few cases in which the Director General did not receive the measure of support which he believed was necessary.

<sup>1</sup> The federal manager of the Baltimore & Ohio Railroad, for example, had charge also of the Western Maryland and the Cumberland Valley Railroads.

In announcing the new policy Mr. McAdoo said:

Inasmuch as "no man can serve two masters," and the efficient operation of the railroads for winning the war and the service to the public is the purpose of federal control, it was manifestly wise to release the presidents and other officers of the railroad companies, with whose corporate interest they are properly concerned, from all responsibility for the operation of their properties. . . . All ambiguity of obligation is thus avoided. Officers of the corporation are left free to protect the interests of their owners, stockholders, and creditors, and the regional and operating managers have a direct and undivided responsibility and allegiance to the United States Railroad Administration.

Mr. McAdoo asserted that the government saved large sums by the change and much publicity was given to the "fancy salaries" paid railroad presidents and others who were by this action transferred to the corporate pay rolls and paid from corporate funds, or who, as federal managers, were paid lower salaries. The majority of the officers who accepted the higher positions in the regional and central organizations received smaller salaries than they had received as officers of railroad companies, but the number was not as large among federal managers. A very few of them were benefited financially.<sup>1</sup>

With this change in the relations between the Director General and the companies, the organization of the United States Railroad Administration assumed the form which continued without substantial alteration during the entire period of federal control.<sup>2</sup> The unit of

<sup>1</sup> "Under private control of the railroads 2,325 officers drawing salaries of \$5,000 a year or over were employed, with aggregate salaries of \$21,320,187 Under government control 1,925 officers (a reduction of 400) are doing the same work, and the aggregate of their salaries is \$16,705,298 — a saving of \$4,614,889 per annum This total includes the officers of the various regional districts as well as those of the central administration in Washington" (Report to the President by the Director General of Railroads, for seven months ending July 31, 1918) This phase of government operation will be discussed further in the second article

<sup>2</sup> In a general way the organization has already been described in these columns. See a note by Mr. Brice Clagett in this Journal, vol xxxii, p 188, November, 1918.

organization was the federal manager of a road or a small group of roads. The country was divided into seven regions — Eastern, Allegheny, Pocahontas, Southern, Northwestern, Central Western, and Southwestern. Each region was in charge of a regional director, assisted in some cases by district directors. The regional directors had control over all activities within their respective regions, but in functional matters their work was coördinated by the several directors of the central administration.

An organization chart would show full lines of responsibility and authority between the regional directors and the Director General, with broken lines indicating advisory relations between the regional directors and the directors of the several divisions. But the procedure was never definitely understood, and at times there was confusion. In theory the regional directors, controlling the several federal managers, were intended to be supreme in their respective regions, and were to be responsible directly to the Director General. It was the intention that the central organization should work through the regional directors. In practice, however, there was much "short-cutting" between officers of the central administration and the federal managers, federal auditors, federal treasurers, and other officers subordinate to federal managers. There was some feeling on the part of the regional directors that they should not be held responsible for actions over which they had no direct control. Yet on the whole, considering the size of the organization <sup>1</sup> and the lack of time in which to work out and publish a *Manual of Organization* with a clear definition of authority and responsibility, the confusion was relatively small. Inasmuch as the

<sup>1</sup> Railroad officers and employees in federal control with those employed by the Pullman lines, express company, and water lines numbered approximately 2,000,000, or half as many men as were in the army and navy at the height of our military activity.

motives of practically every one in the official organization were in harmony with the controlling desire to operate the railroads at the highest pitch of efficiency for war purposes, it was just as well that the order of procedure was not so bound up by rigid rules as to substitute army "red tape" for a reasonable degree of personal initiative in short-cutting where the circumstances justified.

### THE CONTRACT BETWEEN THE GOVERNMENT AND THE RAILROAD COMPANIES

From the date of the passage of the Federal Control Act in March, 1918, until the latter part of October, a large part of the time of the Director General and his legal and other advisors was taken in framing a standard contract between the government and the companies. While this contract was based on the provisions of the Act, its terms were so hurriedly drawn that many complications were apparent when the attempt was made to express them in a formal contract. The negotiations were long drawn out and the contract as finally approved by Mr. McAdoo represents many compromises, most of them from the side of the committee representing the railroad companies. Considerable difficulty was experienced in coming to an agreement with many of the companies, so that up to January 1, 1919 contracts had been executed by but 23 of the 160 or more Class I railroads.<sup>1</sup> At the end of federal control 147 contracts had been executed and 83 were still under consideration. Of these, 49 had agreed with the Director General as to compensation, while 15 had declined to accept the compensation offered and had filed appli-

<sup>1</sup> Annual Report, 1918, Division of Law.

cations with referee boards to fix compensation. Six roads had declined to make contracts and seven had never made application therefor.<sup>1</sup>

The terms of the contract have been well summarized in these columns <sup>2</sup> by Professor Dixon and need not be discussed here. Reference will be made later to the question of maintenance and its relation to Section 5 of the contract.

### THE TWO PERIODS OF FEDERAL CONTROL

The twenty-six months of federal control may be divided into two distinct periods in which the conditions differed fundamentally. The first period was from January 1, 1918 to the signing of the armistice. During that period and until January 11, 1919, Mr. McAdoo was Director General. The second period was from the signing of the armistice until the end of federal control on February 29, 1920. During that time (except for the first two months) Mr. Walker D. Hines was Director General.

The first period was one of intensive military activity. The sole thought was to administer the railroads as an effective agency of the army and navy. Officers and employees were spurred by motives of patriotism. The public cheerfully accepted limited railroad service and cordially coöperated with the Administration in its efforts to produce the maximum of the kind of transportation most needed in the war. The fact that the railroads were functioning effectively and were breaking all records of transportation efficiency compensated the

<sup>1</sup> Report of Director General to the President for fourteen months ended March 1, 1920.

<sup>2</sup> Quarterly Journal of Economics, vol. xxxiii, p. 577, August, 1919, "Federal Operation of Railroads During the War."

shipping and the traveling public for their sacrifices, and encouraged railroad officers and employees to do their utmost. Wages had been raised substantially; the high cost of living was not yet as disturbing a factor as it became later; and the general morale of the service was fairly satisfactory.

Almost immediately after the signing of the armistice, there came a marked slackening. The spur of patriotism disappeared. The common motive to excel was lacking. The game was over. The war had been won. The minds of both officers and men turned to their personal interests.

Early in January, 1920 the first of the protracted hearings on the return of the railroads was held by the Senate Committee on Interstate Commerce. Then began a country-wide discussion of the railroad problem and the formulation of the many "plans" for its solution. To add to the confusion the lid was lifted from the cauldron of dissatisfaction on the part of shippers and travelers. With the conclusion of military activity there came an insistent demand for a resumption of pre-war service and pre-war shipping privileges. A natural reaction set in against governmental administration. The states began to assert their rights and the shippers' organizations became active in their criticism. An agitation was started to restore the rate-making power of the Interstate Commerce Commission and a Congressional bill designed to bring it about failed only because vetoed by the President.

Coupled with these disturbing factors, the cost of living continued to mount. Railroad employees had expected prices to drop. The higher wage awards of the Railroad Administration were found to have less purchasing power than the pre-war wages. The spirit of unrest found expression in insistent demands for further

wage increases. The appeal of patriotism could no longer be invoked, and the general feeling of discontent with economic conditions in all lines of business seriously undermined the morale of railroad service.

### THE FIRST PERIOD. UNIFICATION AND STANDARDIZATION

Observing the distinction between the characteristics of the first and the second year of federal control, attention will be directed first to a review of 1918, with particular reference to the methods adopted under the policy of unification and standardization. This policy was applied principally to the features of operation enumerated below:

- Joint use of passenger and freight terminals.
- Joint use of yards and engine houses.
- Consolidation of car inspection forces.
- Joint use of running tracks.
- Joint use of motive power and cars.
- Short-routing of freight.
- Diversion of export traffic to southern ports.
- Consolidation of city ticket offices.
- Abolition of off-line offices.
- Elimination of competitive activities.
- Standardization of new locomotives and cars.
- Simplification of inter-road accounting.
- Standardization of operating statistics.

The Railroads' War Board had made considerable progress in arranging for the joint use of terminals, other facilities, and equipment, but the United States Railroad Administration went much further. The attention of the regional directors was concentrated upon this feature of operation during the first few months of federal control and the Director General stressed it. The 1918 annual reports of the regional directors claim large savings in operating expenses by reason of unifica-

tion of facilities, but these estimates of economies must be accepted with reservations. In many cases the apparent savings at one point were partly offset by additional expenses elsewhere.<sup>1</sup> In many cases, too, they were made at the cost of much inconvenience to the shipping and traveling public. On the whole, however, there were real net savings and, what was more important, the capacity of the roads as a national system to produce ton-miles and passenger-miles was increased.

The example best known to the public was the joint use of the Pennsylvania New York City terminal by the passenger trains of the Pennsylvania, Baltimore & Ohio, and Lehigh Valley roads. Such common use of the new terminal was not contemplated when it was designed, but the plan proved to be feasible and it resulted in better service to the public. In freight service one of the best examples was in Chicago. Its terminal district embraces an area of about 2,500 square miles. It is served by 40 railroads which at that time were interchanging about 40,000 cars daily. Plans were worked out under federal control by which the Elgin, Joliet & Eastern Railroad was used more extensively as a connecting link between the eastern and the western trunk lines for the handling of through freight not requiring icing, while perishable freight was concentrated on the Indiana Harbor Belt Line. Industries on the St. Charles Air Line were formerly served by the separate switching locomotives and crews of 19 railroads. The new plan provided that the Illinois Central forces should do all of the work for itself and for the eastern lines (with the exception of the Michigan Central); and the Burlington

<sup>1</sup> The annual estimated savings through joint use of terminals, yards, and like facilities were estimated in 1918 as follows: Eastern region, \$4,172,000, Allegheny region, \$4,037,526; Pocahontas region, \$1,495,603, Southern region, \$2,182,260; Northwestern region, \$4,888,993, Central Western region, \$5,325,000, Southwestern region, \$1,434,000, total, \$23,535,382.

forces were to do all of the work for the western lines. Passenger trains of the Baltimore & Ohio and of the Pere Marquette between Pine Junction and Sixteenth Street were diverted to the Pennsylvania tracks in both directions, thus freeing the Baltimore & Ohio Chicago terminal of all passenger business with its retarding effect on the freight service, shortening the run of these passenger trains by 7 miles and their running time by 40 minutes.<sup>1</sup>

All of the regional directors in their 1918 annual reports gave imposing lists of instances of unification or consolidation of physical facilities. The Allegheny region alone reported 875 cases; the Southern, 140; and the Southwestern, 272. Most of these unifications were relatively unimportant individually but they included practically all of the important terminals throughout the country. The degree of unification, of course, had a wide range of difference, according to practicability. In some cases it was comprehensive; in other cases very slight. Where there were two or more engine houses of different corporate ownership it was found feasible in a few cases to close one or more of them and to concentrate the work in one. Such a plan worked well at Galveston. The separate car inspection forces maintained by the individual roads to protect their individual interests under private operation were consolidated into one joint force at a large number of interchange points. In some cases one freight station was used for the business of two or more roads and the stations from which the business was diverted were closed. At some points savings were made by having all of the switching service performed by one road where, under competitive conditions, separate switching service had been performed by all of the competing carriers.

<sup>1</sup> *Railway Age*, vol. 68, p. 78, January 2, 1920.

The same principle was applied to the joint use of running tracks where such action was advisable. For example, Baltimore & Ohio trains between McKeesport and New Castle were diverted over the tracks of the Pittsburg & Lake Erie and the Pennsylvania, where one locomotive could handle as many tons as five locomotives could handle between the same points on the Baltimore & Ohio. Coal and coke from the lower Connellsville region on the Baltimore & Ohio road were routed over the Monongahela, the Pittsburg & Lake Erie, and the Pennsylvania lines to the Pittsburg district, thus releasing the Baltimore & Ohio lines for eastward-bound traffic, principally coal from the Fairmont district to seaboard. Or again, traffic which formerly had moved from the Baltimore & Ohio lines in the West Virginia coal regions and the Pittsburg district via Baltimore and Philadelphia was routed via Rutherford and the Philadelphia & Reading road, thus keeping such traffic out of the congested districts at Baltimore.<sup>1</sup>

Between Pueblo and Denver, a distance of 118 miles, and between Wells, Nevada, and Winnemucca, Nevada, a distance of 185 miles, the single tracks of two separate railroads were operated as the double track of one railroad, thereby increasing their combined capacity.<sup>2</sup>

Between Oakland and San Francisco separate ferry services had been operated by the Southern Pacific, the Santa Fe, and the Western Pacific roads. As the ferry facilities of the Southern Pacific were ample to serve the traffic of the three roads, the passenger trains of the Santa Fe and of the Western Pacific were brought into the Oakland Mole, and their passengers used the ferries of the Southern Pacific.<sup>3</sup>

<sup>1</sup> 1918 Annual Report, Regional Director, Allegheny Region

<sup>2</sup> Ibid., Division of Operation

<sup>3</sup> Ibid.

The utilization of motive power was made much more effective through unified control. Surplus power on one road or in one region was quickly transferred to another road or region where a shortage existed.<sup>1</sup> When the shop facilities of one road were inadequate, or were overtaxed by locomotives in need of repairs, some of these locomotives were taken to other roads with greater shop capacity and there repaired. Baltimore & Ohio locomotives, for example, were repaired in shops of roads in the Northwest region.

In the case of freight cars, which had practically been pooled under the operations of the Railroads' War Board, the pooling under federal control was made much more complete. During the greater part of federal control the payment of car hire (*per diem* charges) as between roads in federal control was waived, and each road was instructed, as regards running repairs or shop repairs, to give the same care to cars of other roads as it gave to its own cars.<sup>2</sup>

The Car Service Section had complete control over distribution, and shifted the cars to where they were most needed without regard to ownership. In the process of distribution of empties, the cars were often dispatched in solid train lots as, for example, when they were urgently needed in the West early in the spring of 1918 for the movement of food for export. These trains of empties were arbitrarily routed via the roads which could handle them most expeditiously and with the least interference with loaded car movement. The normal car service rules, which provide that the burden of the empty movement shall be assumed by the road or roads which received the revenue from the loaded movement,

<sup>1</sup> The practice of transferring locomotives from one road to another road had been inaugurated by the Railroads' War Board

<sup>2</sup> This plan did not work satisfactorily. It will be discussed further in reviewing the results of 1919

were set aside. This policy naturally resulted in a somewhat higher percentage of empty car miles to total car miles, but the loss was counterbalanced by a reduction in car shortage at the points where the traffic of vital importance originated.

Mention should here be made of the policy of dispatching solid trains of foodstuffs and other freight of similar character from the West intact to the seaboard. Tho this is not an economical method of transportation (because the maximum economical weight of the train varies with the rate of the grades and the power of the locomotive, and these differ widely on individual railroads) the practice did much to expedite the movement of freight then badly needed in France.

The first general order issued by the Director General (No. 1, December 29, 1917) directed that shippers' designation of routes should be disregarded when freight might be moved with greater expedition or more efficiently by other routes. It provided also that traffic agreements between carriers were not to be allowed to interfere with expeditious movement. This has been called the policy of short-routing of freight. It was frequently referred to by Mr. McAdoo in reports and public statements as an important reform instituted under federal control. In the writer's opinion the importance of this factor has been much overestimated. It is true that the annual reports of the regional directors contain references to large savings in car miles. These, at very best, are estimates, and even if they were correct, the estimated savings were but a fraction of one per cent of the total car miles. In practice it was found that the traffic suffered least delay when moved via the normal routes. A shifting of the load from the longer to the shorter route frequently found the latter under-equipped for the overload, and resulted in congestion.

Savings based on estimated reductions in car miles were in many cases entirely neutralized by the higher cost of moving the cars via the shorter and more congested routes.<sup>1</sup>

To some extent the strain caused by the unusual volume of export freight traffic was lessened by the work of the Exports Control Committee. It consisted of a representative of the United States Railroad Administration, a major general representing the army, a rear admiral representing the navy, a steamship executive representing the Shipping Control Committee, and a traffic expert representing the Allies. This committee was created on June 11, 1918, for the purpose of determining the probable amount of freight to be exported for war purposes and to work out a plan for its most effective distribution through the several ports. As a result of its conferences, and in coöperation with the Railroad Administration and the Shipping Board, a substantial portion of the export freight, principally for the Allies, which normally would move through the North Atlantic ports, was diverted to the South Atlantic and Gulf ports.

Another phase of unification, familiar to the public, was in the consolidated ticket offices. In more than one hundred of the important cities in the country the "up town" selling of tickets, both railroad and Pullman, was concentrated in one office which took the place of a large number of separate ticket offices in each city. In New York and in Chicago more than one consolidated office was found necessary, but in the other cities the single central city office was substituted for the separate offices of the local and "off-line" roads. At the same time all arrangements between the railroads and tourist or similar agencies were canceled. In all, 101 consol-

<sup>1</sup> Cf. discussion below under "Public Service."

idated ticket offices were established. They took the place of 564 passenger offices which were in existence prior to federal control. In his report to the President, for the seven months ended July 31, 1918, the Director General estimated that the closing of the off-line agencies and the consolidation of ticket offices represented a yearly saving of \$16,566,633, to which he added an item of \$7,000,000 to be saved by the practical elimination of advertising, making a total estimated saving in the three items of \$23,566,633.<sup>1</sup>

Much publicity was given to the Administration's policy of standardizing the design of locomotives and freight cars. Mr. McAdoo's statement that there were "2023 different styles of freight cars and almost as many different descriptions of locomotives,"<sup>2</sup> appealed to the public imagination, as did also his announcement that a committee of experts of the Railroad Administration had agreed upon twelve standard types of freight car and six standard types of freight locomotive of two weights each. Obviously the process of standardization would make the problems of new construction much easier and eventually would reduce the cost of maintenance. In 1918 the Director General ordered 1430 locomotives and 1000 freight cars of standard design.

Under the terms of the contract between the Director General and the railroad companies the Director General was required to secure the approval of the corporation before he could permanently assign any of the new standard equipment to that corporation. There was much opposition to the universal adoption of these standards and long drawn out controversies over the assignment of the new equipment to the individual companies. The *Railway Age*, the leading technical

<sup>1</sup> On this point also compare what is said below.

<sup>2</sup> Report to the President, for seven months ended July 31, 1918

railroad journal, devoted much space to criticism of the policy,<sup>1</sup> and much time and effort were expended by the spokesmen for the Administration in defending it.

An analysis of the conflicting views on the subject indicates, however, that the railroad companies had no quarrel with standardization as a principle. Practically all of the negative arguments attached to *the degree* in which the principle was applied. Many of the larger railroad systems, such as the Pennsylvania, the Union Pacific, and the Southern Pacific, had been following the principles of standardization for years, and the Master Car Builders' Association and the American Railway Association had made substantial progress toward standardization in freight car design. There was a natural resentment against the upsetting of these programs by the enforced adoption of new standards which had been somewhat hurriedly adopted by Administration experts of no greater professional standing than the experts of the larger individual systems, who had a more intimate knowledge of the peculiar local needs.

Many flaws may be picked in the details of the government standards. It can easily be shown, for example, that the requirements of an individual road cannot be efficiently met by any one of the twelve standard types of locomotive. On one road, for example, the lighter type of locomotive designed for slow freight service was not quite powerful enough to haul the train which the locomotive of local design could haul. The heavier type of standard locomotive, on the other hand, exceeded the capacity of the bridges. That road had to choose between a loss in train loading efficiency with the lighter type of locomotive, or undertake an expensive

<sup>1</sup> There was, of course, strong opposition from manufacturers of special parts or appliances. The specifications for new equipment were so drawn as to exclude certain of these specialties and to favor others as, for example, in the case of friction draft gear for freight cars.

program of bridge strengthening or rebuilding. If it accepted the second alternative it faced the fact that the additional capital expenditures for bridges would earn returns only on the heavier trains hauled by the relatively few new locomotives and could not avail itself fully of the additional capacity of its line until all of its own standard of locomotive were displaced by the heavier standard of the United States Railroad Administration.

In another case a road with heavy grades had worked out a design of locomotive which with a lighter type as a helper on the maximum grade gave a maximum of power utilization both on the minor grades with one locomotive and the major grade with two locomotives. In that case there was no possible combination with the new standards which would give the same degree of train loading efficiency.

It was plain, therefore, that the Administration's standards were too few in number to meet all of the requirements of the different physical and traffic characteristics of the 160 Class 1 roads in federal control. And it was equally plain that some compromise might profitably be made between a policy of arbitrarily fixing a few types to meet all conditions and a policy of individuality and regard only for local needs. Two or three times the number of types prescribed by the Administration would probably save nearly all of the advantages of standardization and at the same time would give each road the opportunity to select a type or types which it could use without loss of efficiency.

The case for the standardization of the freight car is stronger. Locomotives ordinarily are confined in service to the rails of the owning company. Freight cars are used in common under car service rules and the *per diem* rules agreement. They are repaired (with certain excep-

tions) on the road where the need of the repairs develops. The average freight car of an individual road is at home not much more than one-half of the time. Obviously if there is a common standard for the types of car used for the great bulk of the interchanged traffic, each road will be required to carry a much smaller stock of repair parts, and there will be a reduction in the time now lost by cars which are held while the repairing road is obtaining parts of special design.

### SIMPLIFICATION OF ACCOUNTING

The transition from private to federal control, the separation of the accounts as between the corporation and the government, and the provisions of the contract between the Director General and the railroad companies, necessitated a great deal of additional accounting work. Shortly after federal control began, and before the separation was made between federal and corporate accounting forces, the railroads were instructed to keep two sets of accounts—one reflecting federal transactions, the other reflecting the affairs of the railroad company.<sup>1</sup> When the federal and corporate forces were split, the former was concerned only with the federal accounts; but very heavy additional burdens were placed upon the accounting department by the special accounts and statistics required by the Director General, the Division of Accounting, the Division of Capital Expenditures, and other departments of the Administration. In July, came still further burdens, from the order requiring the standardization of operating statistics in greater detail than had been customary on the majority of roads.

As an offset to these additional burdens, several inno-

<sup>1</sup> General Order No. 17, April 3, 1918

vations were ordered which had the effect of reducing the normal accounting requirements pertaining to inter-road transactions. Since the policies of unification, diversion of traffic, pooling of freight cars, and many other practices tended to destroy the normal relation of operating expenses to operating revenues of an individual road, several accounting short-cuts were authorized. The government was not particularly interested in the absolute accuracy of the accounts of an individual road as a unit in relation with other roads. It was primarily interested in the combined results for all of the roads as a national system. The diversion of traffic and the unification of facilities and equipment worked against the individual showing of a part of the railroads and correspondingly improved the showing of the others.

The first step was the adoption of the universal inter-line waybill.<sup>1</sup> The plan provided that all freight moving as through shipments over the rails of two or more railroads was to be billed through from point of origin to destination *regardless of the absence of joint rates*. This method eliminated a great deal of re-billing at junction points, reduced the delay to freight on that account, and simplified revenue accounting.

Then came the instructions<sup>2</sup> to discontinue the technical and arithmetical checking of bills as between roads in federal control. This change was meant to apply particularly to the tens of thousands of inter-road bills each month for freight claims, car repairs, equipment rents, joint facilities and the like, and the statements pertaining to the settlement of joint revenues on inter-line freight and passenger traffic. The billing road was enjoined to use care in the preparation of the bill and the debtor road was obliged to assume its technical and arithmetical accuracy.

<sup>1</sup> General Order No 11, March 16, 1918.

<sup>2</sup> *Ibid*

The next step <sup>1</sup> provided simplified bases for the apportionment of interline freight revenue. Instead of continuing the former plan under which each road determined from the waybill records the balance due it from each road and the amount of its indebtedness to each road, the debit or credit balances as between roads were to be based on what are termed "road to road per cents." These per cents were to be computed for each route from the records of 1917. In effect the new plan provided for a division of joint freight revenues as between carriers in the same proportions that such revenues on interline freight traffic were divided in the year preceding federal control. Later on a "short cut" was authorized for the simplification of interline passenger revenues.<sup>2</sup>

A further reduction in accounting work was authorized on June 12th<sup>3</sup> when accounting for freight car hire (*per diem*) was discontinued as between roads in federal control. Simplified bases were provided also in the same order for the making of bills for joint facilities, and under date of October 5th a plan for reducing the accounting work connected with the exchange of bills for repairs to equipment was made effective.<sup>4</sup>

#### STANDARDIZATION OF OPERATING STATISTICS

Under the rules of the Interstate Commerce Commission the accounting practices of the railroads have been standardized for many years. To a very limited extent this standardization applied to the statistics of performance — locomotive miles, train miles, car miles, ton miles, and passenger miles. But no steps had been taken to bring about uniformity in the field of operating

<sup>1</sup> General Order No 21, April 22, 1918    <sup>3</sup> General Order No 31, June 12, 1918.

<sup>2</sup> General Order No 32, June 29, 1918    <sup>4</sup> General Order No 47, October 5, 1918

statistics. Each road had gone its own way in developing the reports which were designed to show the efficiency of the various operating activities and to reflect unit costs.

The need for uniformity in this field as well as in the field of accounting was realized when an attempt was made during the first three months of federal control to put together a composite picture of operating results from the large number of special reports which had been sent to the Director General at his request. There was so much diversity in the content of the reports and in the bases used that it was impracticable so to combine the figures as to show the results for a region or for the railroads as a whole.

To meet the needs an Operating Statistics Section was organized early in May and, effective August 1st, a system of standardized operating statistics was promulgated. While the new plan was designed primarily to supply the central administration and the regional directors with the necessary information for each road and each region, the forms were drawn so as to be equally valuable for intra-railroad purposes. As a result the complete statistical indices of performance and operating efficiency were made available to the operating officers of all railroads and to the public, as well as to the Railroad Administration, without the former uncertainties and qualifications as to bases and methods. The operating officers were furnished with much more information than they had ever before had concerning neighboring roads with which they could fairly make comparisons, and in the majority of cases the new reports gave them more information concerning their own roads than theretofore had been available to them.<sup>1</sup>

<sup>1</sup> See *Annals of the American Academy of Political and Social Sciences*, November, 1919, "The Accomplishments of the United States Railroad Administration in Unifying and Standardizing the Statistics of Operation," by present writer

## PASSENGER SERVICE

With the United States Railroad Administration pledged to the single purpose of operating the railroads so that they would assist most effectively in war, it was inevitable that there would be a curtailment in service for civilian travelers and limitations upon the transportation of non-essential freight.

One of Mr. McAdoo's first public statements (that of January 5, 1918) as Director General dealt with the reduction in passenger train mileage. The Railroads' War Board had already made substantial reductions, but the Director General went much further. In May he approved a drastic rearrangement of the service west of Chicago. The reductions were estimated to save 11,728,000 passenger train miles per year. They were accomplished by abandoning duplicate service between Chicago and the Pacific coast cities and assigning to the short and direct routes to each city the fastest through service. Under this plan the Santa Fe was to be the preferred route to Los Angeles; the Chicago & Northwestern, the Union Pacific, and the Southern Pacific to San Francisco; the Burlington and the Northern Pacific to Portland, and the Chicago, Milwaukee & St. Paul to Seattle. Similar plans were adopted in other sections of the country as, for example, between Chicago and the Twin Cities, Chicago and St. Louis, and New York and Florida points. In the aggregate the savings in passenger train miles during the first seven months of federal control were at the rate of 67,290,482 per year. The Administration frankly attempted to discourage civilian travel; but its appeals apparently made little impression upon the public. The volume of passenger traffic grew

steadily and during the two years of federal control exceeded all previous records.<sup>1</sup>

In addition to the curtailment in passenger train mileage there was a drastic cut in the number of parlor cars and dining cars, as well as a reduction in the number of sleeping cars. The general policy was to run only the number of sleeping cars regularly assigned to each train and not to put on extra cars and run extra train sections except under unusual circumstances. Observation cars and Pullman smoking and buffet cars were practically eliminated, as were many other "frills" connected with the extra fare trains.

From the viewpoint of the public, the consolidated ticket offices had certain advantages. The traveler could purchase tickets, arrange for Pullman car reservations, obtain information, and secure other services at one central point for any or all of the routes available for his intended trip. In case the sleeping cars via one route were sold out, he could change to another route without going to another office. Tickets for points served by two or more railroads were honored via any route. On the other hand there were certain disadvantages. The very size of the office and of the volume of business transacted required a much larger number of clerks than had ever worked together in one ticket office. It took months to weld them into a smooth-working organization. At the hours of the peak load there was much standing in line, and trying delays. In a few offices, such as those in New York and Chicago, there was a subdivision of the office organization by roads or sections of the country. In the majority of cases, however, there

<sup>1</sup> Passengers carried one mile during the years 1917-19 inclusive, were: 1917, 39,361,369,062; 1918, 42,498,248,256; 1919 (partly estimated), 46,200,000,000 (Report of Director General Hines to the President for fourteen months ended March 1, 1920). The figures include troop movements, but military traffic does not account for all of the increases in 1918 and 1919. The passenger miles of 1917 also included heavy troop movements in the latter part of the year.

was no such subdivision. A ticket clerk whose previous experience had been confined to one road or section had to become familiar with all roads or sections served by that office. This took time, and in the process there was a loss in the quality of service. The defects in the service of the consolidated ticket offices grew less obvious as the organization "found itself," and the clerks became more familiar with their broader range of work, but the typical traveler missed the former stimulus of competition between separate passenger-soliciting forces.

### FREIGHT SERVICE

While the man who traveled was asked to make substantial sacrifices in the interest of the expeditious movement of troops and of war materials, it is doubtful if he contributed any more to the common cause than the average shipper of freight which was not included on the priority lists. The traffic for export or for other war purposes, which moved under priority orders, was such a large part of the total that the shipper of freight outside of the priority list — the man who was trying to carry on "business as usual" — had much to contend with. To keep a complete control of the freight situation and avoid congestions such as those of the last two or three months of 1917, the embargo method was so frequently used that the ordinary shipper was kept "guessing" as to whether his shipment would be accepted at all and if accepted when it would reach its destination.

The permit system was adopted under these circumstances, and had much to commend it. It was applied primarily to export freight but to a limited extent was applied also to domestic traffic destined to points in the congested areas. The system had much to do with the

reduction in the accumulation of freight at seaboard and prevented further blockades. Under the permit plan a shipment for a seaport or other designated destination would not be accepted by the railroads at the shipping point until a permit was issued, and the permit would not be issued until it was known that the consignee was prepared to receive the shipment. Under former conditions the shipper, in the absence of a specific embargo, could deliver his freight to the railroad regardless of the ability or inability of the consignee to take the freight on its arrival at destination. The new method in effect controlled the flow of traffic at the source and prevented accumulations of cars at destination, particularly at the seaboard. It proved of such value that the railroad companies, on the return to them of their lines, retained it as regards export traffic.

An important innovation was the "Sailing Day Plan"; better called the shipping day plan. It was applied to the movement of less than car load freight and was designed to bring about the better utilization of freight cars by securing a heavier average load per car. Schedules were worked out from the principal less than car load shipping points and freight of that class for certain destinations or certain transfer points was held for through cars which would run on specified days of the week. The daily loading of this freight to transfer stations, when the tonnage for one destination did not justify a through car, had caused congestion at many transfer points. Under the new plan the assembly of less than car load shipments into larger car load units reduced the number of transfers and saved some of the delay to freight.

Yet the plan was not generally approved by shippers, as it gave certain distributing centers an advantage over other competing distributing centers to common mar-

kets when the traffic from the first was greater than that from the second and therefore justified more frequent service.

The abolition of the off-line freight agencies took away a form of service which had not been appreciated fully until the offices were closed. While primarily freight soliciting agencies, they acted also as bureaus of information for the shipping public and as such were of much convenience to the shippers. The tracing of shipments was of real value. The New York representative of a western road would obtain reports of cars destined to or coming from points on his line and on request would keep the shippers informed of their location and probable delivery or arrival. The offices were clearing houses for various kinds of commercial information, and the soliciting forces naturally did their best to serve their patrons and create the good will so valuable in traffic relations. When it was made clear to the Railroad Administration that this feature of the off-line agency service was a real loss to the shippers, an attempt was made to give similar information in central freight information bureaus in important centers, but the substitute was regarded by the shipping public as poor.

### INCREASES IN RATES

It was clearly apparent when federal control began that the existing rate scale would not yield sufficient revenue to enable the government to earn the guaranteed rental. The power of the Director General to establish rates was not determined until the passage of the Federal Control Act. The Act gave him authority to initiate rates and regulations by filing the tariffs with the Interstate Commerce Commission, but the Commission was shorn of its power to suspend such rates

pending final determination of their justness and reasonableness. The Commission was authorized to hold hearings if complaints were made and, after such hearings to make such findings or orders as are authorized by the Interstate Commerce Act; but the Commission was also required to take into account the fact that the transportation systems were being operated under a unified and coördinated control and not in competition. It was provided further that when the Director General certified to the Commission that increased revenues were necessary to defray the expenses of federal control and operation, the Commission should take such finding and certificate into consideration in determining the justness and reasonableness of the Director General's changes in rates and regulations.

The Federal Control Act which contained this authority was not approved until March 21, 1918. Steps were taken at once to determine the extent and the form of the necessary increases. On May 25th an order was issued which in general terms horizontally increased freight rates about 25 per cent and advanced the passenger rate to three cents per mile. Where the existing rate was higher than three cents per mile no increase was ordered. Suburban fares were increased 10 per cent. The passenger fare increase as a whole was estimated to be about 20 per cent. A surcharge of one-half cent per mile for passengers using Pullman cars was also ordered. These were the only general rate increases initiated by the United States Railroad Administration, altho numerous adjustments in individual rates were made later, most of them resulting in reductions rather than increases.

To provide an effective organization for the adjustment of complaints concerning freight rates and regulations, 24 local and 3 general freight traffic committees

were created, upon which the public had representation. Proposed changes were passed by the local committee to the general committee and then to the Director of Traffic, with a copy to the Director of Public Service. Every change had to be approved by the two Directors, or, if they divided in opinion, the Director General was called upon to decide. The public representatives on these committees were usually selected by the shippers' organizations. Individually their votes had equal weight with the votes of the individual railroad members, but the public members were in the minority. The railroad members, therefore, controlled the majority recommendation but the minority influence was recognized. The arrangement did much to maintain amicable relations between the shipping public and the Railroad Administration during the trying period of the war.<sup>1</sup>

On one important task, begun a long time ago, substantial progress was made. For years the Interstate Commerce Commission has been pressing for action which would bring about uniformity in freight classifications, and the railroads had been struggling with the problem. As between the official, southern, and western classifications there had been many variations in the classification of articles and in the regulations which applied to the classification. Under the unification brought about by federal control there appeared to be an excellent opportunity to secure the necessary compromises between the railroads themselves and between shippers and railroads. The fact that any plan of uniformity meant losses to some of the railroads if the lowest classification in any territory were adopted uniformly and, conversely, meant higher freight charges to the shippers if the highest classification were adopted,

<sup>1</sup> For passenger rate matters three general committees were formed but on these the public was not represented.

had been the principal stumbling block in the path of progress. The Railroad Administration set about with vigor to achieve the desired uniformity, but nothing definite was accomplished in 1918. In 1919, however, under Mr. Hines' régime as Director General, a consolidated classification was presented to the Interstate Commerce Commission; Mr. Hines did not care to initiate it himself without the prior approval of the Commission. Vigorous opposition on the part of shippers developed at the hearings, and the Commission declined to approve the plan of re-classification because it appeared to have the effect of unduly increasing rates — the upward adjustments exceeding those which were downward. The Commission, however, gave its approval to the unification of the rules. Tho this in itself was an important step forward, it is to be regretted that the golden opportunity presented by the war period and federal control to solve an extremely troublesome problem was lost. The difficulties which lie in the path of a complete solution to the classification problem are now as great as they were before federal control.

### LABOR PROBLEMS

The relation between the railways and their employees is a subject by itself, too large for adequate treatment in the present discussion, which is concerned mainly with the administrative and operating problems that arose during the period of federal control. A brief sketch of the course of events will be enough to indicate the bearing of the labor situation on these problems.

The demands for large increases in wages which had been made upon the railways before federal control, received immediate attention from the administration. A commission of which Secretary Franklin K. Lane was

Chairman recommended in May, 1918, considerable increases of pay. The advances then recommended were greatest for those in the lower grades of the service, and were designed to bring an adjustment in accordance with the changed cost of living. In the same month a Board of Railway Wages and Working Conditions was instituted, composed of representatives of management and representatives of labor. On the recommendation of this Board, further adjustments were made in the course of 1918. The Director General of his own motion put into effect the principle of the 8-hour day, which had been established in 1916 by the Adamson Act. Some other adjustments were made, serving to equalize the wages of white and colored employees and those of men and women. The combined result was an increase in the number of employees and also an increase in the percentage which the payroll expenses bore to all operating expenses. On December 15, 1917, the total number of employees on Class 1 roads was 1,703,684; on January 15, 1919, the comparable number was 1,843,530, an increase of 139,846, or 8.2 per cent. The payroll expense constituted 61.48 per cent of all operating expenses in 1917; in 1918 it was 65.62 per cent.

The total of the increases granted during 1918 was estimated by Mr. McAdoo to be between \$600,000,000 and \$700,000,000. In the opinion of the present writer the higher figure still understates the extent of the increases, when account is taken of the various collateral increases and of the many changes in rules. The average increase in wages in 1919 was very nearly 50 per cent, a percentage probably less than that granted to employees in other industries with which the railroads competed.

## OPERATING RESULTS

As the railroads were commandeered by the government to meet a war emergency, a review of their traffic accomplishments during the year 1918 is of particular interest. It will be recalled that the railroads serving the North Atlantic seaboard were badly congested when the government took hold. At that time there were 62,247 loaded cars delayed short of their ultimate destination. In addition, there were 31,421 cars held at and west of St. Louis; 24,836 at or west of Chicago; 14,061 at or south of the Ohio River gateways; and 15,545 at or south of the Potomac River gateways. These made a total of 148,110 loaded cars held short of destination. In the majority of cases they were destined to the relatively small area embraced within a line drawn from Portland, Me., through Albany, Rochester, Harrisburg, and Baltimore.

The operating methods employed to relieve this congestion have already been described. These methods, in spite of the unusually severe weather of January, resulted in the practical clearing of the accumulations by May 1.<sup>1</sup>

During this period the food situation in the countries with which the United States was associated in the war was exceedingly acute. The needs were estimated by the Food Administrator to be not less than 1,160,000 tons per month. Translated into other terms that meant between 30,000 and 40,000 loaded cars per month to be moved to the seaboard and the same number of empties to be moved westward. The actual exports during the months of January, and the estimated exports for February, fell far short of the minimum requirements, and

<sup>1</sup> Annual Report, Division of Operation.

a forecast of the situation in March was even less encouraging. Vigorous steps were taken by the Railroad Administration to give preference to the transportation of foodstuffs, so that by March 15 the vessel capacity of the Allies was satisfied and there was a surplus awaiting boats.

A serious situation existed also with respect to bituminous coal. At the beginning of federal control there was an actual shortage of cars at the mines; there was a lack of systematic distribution; and there was a serious dislocation of the New England supply because of the withdrawal of the coastwise water service. The coal-carrying water equipment had been commandeered by the navy and the already overburdened rail lines to and in New England were called upon to handle something more than 150 per cent of their normal coal tonnage. An acute situation existed also in the northwest. Through methods which would have been difficult to apply except under unified governmental control the Railroad and the Fuel Administrations together worked out a plan which gave the needed relief. The coal production in February of 1918 exceeded the tonnage of February, 1917, and thereafter during the year 1918 the coal situation was well in hand. The greatest factor toward improving the situation was the zoning of distribution. Each of the producing districts was assigned a certain fixed area within which to market its coal. Shipments outside of that area were not allowed except under a permit from the Fuel Administration. The plan eliminated a waste of transportation by prohibiting unduly long hauls to destinations which could be served by nearer producing districts. The cross-hauling which had prevailed to a considerable degree, theretofore, was eliminated, and coal-carrying equipment was more efficiently utilized. The zoning plan furnished also an

incentive for utilizing coal available in the Plains states, which otherwise would not have been produced in competition with the higher grades of other districts.

Of all of the governmental demands, the movement of troops was naturally given the greatest attention. The Railroads' War Board, as has already been stated, was praised by the Secretary of War for the effective and satisfactory manner in which the railroads had responded to the heavy calls upon them for transportation of troops. The Railroad Administration took over intact the organization which had been handling that phase of operation for the Railroads' War Board and made it the Troop Movements Section.<sup>1</sup>

Between January 1, 1918 and December 31, 1918 the railroads moved 7,395,310 soldiers, sailors, and marines, an average of 616,276 per month. The maximum movement was in July, when 1,147,013 troops were moved. These figures do not include the large number of officers and men who traveled at their own expense while on furlough and to whom the Railroad Administration granted a rate of one cent per mile.

This troop movement required the running of 13,912 special trains, with an average train journey of over 800 miles. The average train consisted of 12.2 cars and carried 443 men with their equipment and supplies. The speed of the special troop trains was limited to 20 miles per hour in the interest of safety. Considering the magnitude of the movement and the fact that these were extra trains for which special arrangement had to be made, the record shows a commendable freedom from accident. Sixteen out of the nearly fourteen thousand

<sup>1</sup> George Hodges, who had charge of the organization before and after federal control, and who died suddenly in the spring of 1919, was awarded posthumously the Distinguished Service Medal as a recognition of the very successful results which followed the coördination of this important work.

trains met with accidents, which caused the death of 36 men and injury to 314.

There are no complete data to show the extent of freight traffic for government purposes separate from that of other purposes. We must be content to view the freight service as a whole.

It might be thought that a comparison of the ton miles produced in 1918 with those produced in 1917 would give a satisfactory answer to the question: Was the Director General able to operate the railroads as efficiently in 1918 as they were operated during the last year of private operation? The ton miles of 1917 were the greatest on record and the volume of traffic during the last three months was so great as to cause serious congestion and inability to operate efficiently with the overload. If, therefore, the Director General could produce as many or more ton miles, and at the same time could move the freight with less congestion and less delay, it would seem that federal operation in the emergency was justified by the results.

On further thought, however, it will appear that the volume of ton miles does not furnish the complete answer. Is it not conceivable that the Railroad Administration might have been successful even if the total production in ton miles was less? Whether it produced as many ton miles as were produced under private operation is one test; but the real test is this — did it produce in requisite volume the particular kind of ton miles that were essential to the war?

An examination of the records of performance indicates clearly that the Railroad Administration met both tests. The ton miles of 1918 exceeded those of 1917 and all previous years, and the particular kind of traffic which was essential for war purposes was satisfactorily transported. The volume of tonnage for non-military

purposes was reduced to save the facilities for essential tonnage; but in the aggregate the performance of 1918 passed all previous records.

The following summary of results is taken from the report of the Operating Statistics Section. The figures do not agree exactly with those of the Interstate Commerce Commission, as the latter include returns from a few Class 1 roads which were not retained by the government.

# FREIGHT TRAFFIC MOVEMENT AND CAR PERFORMANCE <sup>1</sup>

Class 1 Railroads    Calendar Years 1918 and 1917

Item	Year 1918	Year 1917	Per Cent Increase
Average miles of road	228,729	228,633	
Ton miles (millions)	434,998	427,342	1.8
Freight train miles (thousands)	637,924	654,580	<i>D 2.5</i>
Loaded freight car miles (millions)	14,928	15,816	<i>D 5.6</i>
Empty freight car miles    "	7,128	6,717	6.1
Total freight car miles    "	22,056	22,533	<i>D 2.1</i>
Cars on line daily, serviceable.	2,291,797	2,230,057	2.8
Cars on line daily, total	2,430,786	2,363,309	2.9
<i>Averages</i>			
Ton miles per train mile	682	653	4.4
Ton miles per loaded car mile.	29.1	27.0	7.8
Per cent loaded to total car miles	67.7	70.2	<i>D 3.6</i>
Car miles per car day	24.9	26.1	<i>D 4.6</i>
Ton miles per car day	490	495	<i>D 1.0</i>

It will be noted that the increase of 1.8 per cent in ton miles was accomplished with less train miles and with less car miles. Train miles show a decrease of 2.5 per cent, and car miles show a decrease of 2.1 per cent. The average train load and the average car load show substantial gains — 4.4. per cent increase in the train load and 7.8 per cent increase in the car load. Two items in

<sup>1</sup> *D* denotes decrease    Ton miles include both revenue and non-revenue tons. The statistics include the performance of mixed trains

the tabulation show losses in efficiency: the percentage of loaded to total car miles and the average miles per car day were less than in 1917.

The increases in the train load and in the car load are explained in part by the larger proportion of freight which moves in large car load lots, such as coal, ore, iron and steel products, grain, and similar commodities, and the smaller proportion of merchandise and other commodities which move in relatively light car loads. Freight traffic was divided roughly into two classes — essential and non-essential. The former was given preference. The essential freight included the heavy commodities which assist in making a favorable record in car and train loading.

With respect to the larger proportion of empty car miles and the loss in car miles per car day, the decreases in efficiency are partly explained by the policy of arbitrarily moving the empties in solid train lots and of attempting to have the empties available at originating points in advance of the needs. The increase in the car load, also, was purchased at some sacrifice in car movement per day when cars were held for the heavier load.

The ultimate index to the efficiency of freight car utilization is "ton miles per car day." This is the resultant of the car load, the per cent of loaded car miles, and the car miles per car day. It will be noted that the gain of 7.8 per cent in the load was not sufficient to offset the losses of 3.6 per cent in loaded proportion and 4.6 per cent in car miles per day. The net loss in ton miles per car day was 1.0 per cent.

In passenger service as in freight service, the performance in 1918 broke all previous records. Including the movement of troops, the passengers carried one mile in that year were 42,498,248,256, compared with 39,-

361,369,062 in 1917. The greater part of the 8 per cent increase is accounted for by military traffic, but there was a slight increase in civilian passenger traffic, notwithstanding the curtailment in passenger train service and the appeals of the Railroad Administration to "stay at home."

### FINANCIAL RESULTS

The net operating income of the railroads under federal control for the year 1918 fell short by approximately \$245,000,000 of the amount which the government paid in the standard return rentals. This deficit includes losses in the operation of the Pullman car lines, refrigerator car lines, steamship lines, and inland waterways, as well as the expenses of the central and regional offices of the Railroad Administration. It does not include interest on expenditures for additions and betterments made by the Railroad Administration but paid for by the companies, nor is account taken of claims for undermaintenance. The discussion of these auxiliary features will be reserved for the second article, in which the complete results of the federal control period will be reviewed.

A complete and exact statement of the financial results for 1918 is not available in separate form, but summaries of the income account were published monthly by the Operating Statistics Section. They apply only to Class 1 roads and do not include any of the auxiliary services, such as Pullman lines and steamboats; nor do they include the expense of the regional and central offices of the Administration. The figures, however, give a sufficient indication of the relation between the aggregate net operating income of Class 1 railroads and the rentals which were paid by the govern-

ment. The difference between the two amounts represents much the greater part of the deficit under federal control.

CONDENSED INCOME ACCOUNT<sup>1</sup>

Class 1 Railroads in Federal Control. Years 1918 and 1917

Item	1918	1917	Increase or Decrease	
			Amount	Per Cent
Operating revenues. . . . .	\$4,842,695,884	\$3,988,827,671	853,868,213	21.4
Operating expenses. . . . .	3,939,315,122	2,808,544,956	1,130,770,166	40.3
Net operating revenue . . .	903,380,762	1,180,282,715	D 276,901,953	D 23.5
Net operating income . . .	688,200,083	960,492,111	D 272,292,028	D 28.3
Standard return . . . .	890,335,685			
Per cent net operating income to standard return. . . . .	77.3			
Deficit. . . . .	202,135,602			

The deficit was due to an increase in operating expenses which was relatively and absolutely much more than the increase in operating revenues. It will be recalled that a general increase in freight and passenger rates was made effective in June. The wage increases, however, while awarded in May, were made retroactive to January 1. In his final report to the President, Director General Hines estimated that if the advances in freight and passenger rates had been effective from January 1, 1918 the additional revenues in 1918 would have been \$494,000,000. This amount, of course, would have wiped out the deficit and would have left a surplus of nearly \$292,000,000.

It was impracticable, however, to increase the rates at the very beginning of federal control. The reasons why

<sup>1</sup> D denotes decrease. These returns include the results of operation of 150 Class 1 railroads with an aggregate road mileage of 230,769. Net operating income as used here corresponds with its definition in the Federal Control Act, viz, net operating revenue, minus railway tax accruals and uncollectable railway revenues, plus or minus the net balances for equipment rents, joint facility rents, and miscellaneous federal income items (if any). The standard return used here is the figure as it appeared at that time. Since then it has been changed slightly by adjustments.

they were not made effective until June have already been given. The record, therefore, must stand as given — a deficit of over \$200,000,000.<sup>1</sup> This deficit and the deficit in 1919 are frequently referred to as the “cost” of government operation.

As this phase of the question is to be discussed in the final review of the results for the entire period of federal control, it may be passed here with the brief comment that so far as the ultimate cost to the public was concerned it made little difference whether the deficit in 1918 was met from the public treasury, or was avoided (as might have been done) by an earlier or a larger increase in rates. In either case the public pays the bill. The higher cost of railroad operation, however met, was an element in the cost of the war; and the amount of the deficit is not large when we consider the cost of other large scale government activities incident to the war. The outstanding fact is that during 1918, when adequate transportation was so vitally necessary, the railroads functioned effectively as a part of the war machine, and they served the public reasonably well under very trying conditions. The writer believes that the results achieved under federal control during the war were more favorable than would have been possible under a continuation of private control.

WILLIAM J. CUNNINGHAM.

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<sup>1</sup> This is the loss on the operation of Class 1 roads. Including all activities of the Railroad Administration, and its organization costs, the deficit for 1918 was about \$245,000,000.